



**Traditional, leafy vegetables  
are they a safe resource for combating malnutrition in low income countries?**

Friis, Henrik; Orech, Francis O.

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## ABSTRACTS 19th International Congress of Nutrition

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of 100g of cooked yerba mora supplied 430% vitamin A, 35% vitamin C, 16% calcium, 30% iron, only 3% calories and no saturated or trans fats to the daily requirements of an average adult. Yerba mora has potential as an ingredient mixed with eggs in breakfast foods such as Hot Pockets and burritos.

#### P66-12 NUTRITIONAL QUALITY OF SOME TRADITIONAL ARAB GULF DISHES

Ahfi, Hanan, S.; Habib, Hosam, M.; Ibrahim, Wissam H.; Ismail, Ismail A.  
College of Food and Agriculture, United Arab Emirates University, Al Ain,  
Abu Dhabi, ARE

Ten ready-made dishes including cereals, meat, chicken, fish and sweets dishes were analyzed for proximate composition, macro- and microelements. This work was aimed to collect food composition information due to lack of reliable data in the Arabic Gulf countries. Moisture content varied from 3.9% in cereals to 87.0% in meat dishes. Fat content ranged from 0.3% in cereals to 23.8% in fish dishes. Protein level varied from 3.2% in chicken to 17.5% in fish dishes, while the ash content ranged from 0.4% in sweet to 6.0% in fish dishes. Cereal dishes had the highest carbohydrate content (80.1%). In addition, cereal dishes were the highest in energy content (379.0 Kcal/100 g). Results also showed an enormous variation in some macroelements (27-1577 mg sodium and 8-214 calcium) and some microelements (300-4060 µg iron and 280-1830 µg zinc) while there were less variation in other elements either macroelements (33-163 mg phosphorus, 13-191 mg potassium and 3-57 mg magnesium) or microelements (380-530 µg copper, 60-197 µg manganese, and 0-12 µg cobalt).

#### P66-13 NUTRITIONAL SURVEY, STAPLE FOODS COMPOSITION AND MSG USES IN DOUALA, CAMEROON

Kana Sop, Marie Modestine  
Faculty of Science, Department of Biochemistry, University of Douala,  
Douala, CMR

**RATIONALE AND OBJECTIVES:** Malnutrition and micronutrients deficiencies are serious public health problems in Cameroon. Knowledge of food composition can improve nutrients intakes. This study was aimed at knowing and analyzing the most common foods eaten in Douala.

**MATERIALS AND METHODS:** Proteins, lipids, crude fibers and carbohydrates content of 15 recipes (in triplicate) selected after a survey of 500 families were determined by standard AOAC methods; glutamate contents in Monosodium Glutamate (MSG) and savory condiments by HPLC.

**RESULTS AND FINDINGS:** Five percent of beneficiaries were undernourished, 60.4% normal, 25.2% overweighted and 9.4% with obesity. Total contents ranged between 9.25 ± 0.53 g/100gDW and 16.86 ± 8.85 g/100gDW for proteins; 10.64 ± 0.9 g/100gDW to 35.72 ± 8.56 g/100gDW for lipids; 5.57 ± 2.14 g/100gDW; 38.8 ± 1.82 g/100gDW for crude fibers and 24.11 ± 9.21 g/100gDW to 62.05 ± 3.02 g/100gDW for carbohydrates. MSG was certified of good quality. Glutamate contents in other flavor enhancers ranged from 2.83% in Honig poulet to 13.87% (W/W) in Maggi cube.

**CONCLUSION:** All the recipes were unbalanced in energy with very low content of protein in staple foods.

#### P66-14 THE NUTRITIVE QUALITY OF SELECTED TRADITIONAL FOODS IN VIETNAM

Ha Thi, Dao A.; Le, Dung H.; Dao, Quyen T.  
National Institute Of Nutrition, Hanoi, VNM

**RATIONAL & OBJECTIVES:** The mainstream-working people are likely to consume common traditional foods from street vendors. There is a need to analyze nutritional values of these ready-to-eat foods to provide necessary references on dietary guidance for different groups of consumers.

**MATERIALS & METHODS:** Total 25 common traditional foods in Vietnam produced from rice, glutinous rice, peanuts, sesame, green bean, black bean, coconut, gac fruit, yolk and sugar were examined for nutritive quality. Chemical analyses (Moisture, Protein, Lipid, Glucid, Fiber, Ash, Calcium, Phosphorous, Iron, Zinc and Fatty acid) were carried out according to methods of AOAC.

FAO, ISO at the Department of Food Science and Food Safety of the National Institute of Nutrition (NIN) in Hanoi, Vietnam.

**RESULTS & FINDINGS:** The results found that 5 traditional products made of peanuts, sesame, green bean and sugar were considered nutrition-rich foods, containing a rich amount of zinc, unsaturated fatty acid and energy (446.08 ± 35.73Kcal/100g), following were 4 cakes (Trung thu cakes) made of glutinous rice, green bean, yolk and sugar with 339.23 ± 62.34Kcal/100g, other 11 products made of glutinous rice, green bean, peanuts, coconut meat, gac fruit (228.23 ± 25.76Kcal/100g) and 5 poor energy products made of rice with energy ranged from 85.3Kcal to 230.5Kcal. Linoleic acid were present in all most of products, but linolenic acid was found only with a small amount in some traditional foods including Guong candy (30mg/100g), Gai cake (16mg/100g) and steamed sticky rice with black bean (9mg/100g).

**CONCLUSION:** Traditional foods at street side in Vietnam are highly contribution to the energy, protein, glucid, mineral and fatty acid intake of consumers. Further study should be continued to update the data on nutritional values of traditional foods in the list of Vietnamese foods.

#### P66-15 TRADITIONAL, LEAFY VEGETABLES: ARE THEY A SAFE RESOURCE FOR COMBATING MALNUTRITION IN LOW INCOME COUNTRIES?

Orech, Francis O.<sup>2</sup>

Friis, Henrik<sup>1</sup>

<sup>1</sup>University of Copenhagen, Frederiksberg, DNK; <sup>2</sup>University of Maryland/ WINFOOD, Princess Anne, Maryland, USA

Traditional leafy vegetables (TLVs) may contribute as remedy to malnutrition in low-income countries. However, they may also contain toxins and antinutrients hence potentially pose acute or chronic toxicity. A survey was conducted in western whereby a total of 54 species of TLVs were identified and their micronutrients (iron, zinc and β-carotene), toxins (alkaloids, glycosides and saponins), and antinutrients (oxalates and phytates) described, based on own analyses and literature review. Twelve species contained higher micronutrients compared to commonly eaten introduced species of the cabbage family (Brassicaceae). Another 22 species contained high levels of toxins or antinutrients thus making their consumption scientifically questionable. It is, therefore, concluded that although TLVs constitute an important resource for increasing food and nutrition security, further toxicity and nutrient bioavailability studies are highly recommendable.

#### P66-16 OPTIMISATION OF L.CASEI TO LABORATORY CONDITIONS FOR FOLATE ANALYSIS

Akilanathan, Lalitha<sup>1</sup>; Leelakrishnan, Uthira<sup>1</sup>; Vishnumohan, Shamala<sup>1</sup>; Ramachandran, Sheela<sup>1</sup>; Arcot, Jayashree<sup>2</sup>

<sup>1</sup>PSG College of Arts and Science, Coimbatore, Tamilnadu, IND; <sup>2</sup>University of New South Wales, Sydney, AUS

**RATIONALE AND OBJECTIVE:** To optimize the microorganisms to the existing environmental conditions for the use in microbiological assay of folate content in any nutrient source. *L.rhamnosus* is commonly used for its response to variety of folate derivatives. The nature of food chosen for analysis, type, state, origin of foods differs for various sources. Therefore, optimization is essential before actual analysis of food sources is carried out.

**MATERIALS AND METHODS:** *L.casei* (ATCC 7469) was procured from Department of Microbiology, University of New South Wales, Sydney, Australia. To get the desired growth of the organism trials with variations in culture volume (0.1-2 ml), inoculum load (50-100µl), alterations in incubation time (16-22 hrs) and pH (6.1 and 6.8) were carried out.

**RESULTS AND FINDINGS:** The required R-square values=0.99 was obtained. After optimization, the most commonly consumed fruits in Coimbatore, South India were analyzed.

**CONCLUSION:** There is much limited data on folate content of foods in India. Hence optimization helped us to analyze the folate content.